REMARKS

The enclosed is responsive to the Examiner's Office Action mailed on July 8, 2009, 2009. At the time the Examiner mailed the Office Action, claims 1-21 were pending. By way of the present response, applicant has: 1) amended claims 1, 5, 6, 8, 10, 12, 13, 18, and 20; 2) added no claims; and 3) canceled no claims.

Support for the amendments is found in the specification as originally filed - e.g., at least in paragraphs [0004]-[0005], [0012], and [0017] and Figs. 1-3. No new matter has been added.

Reconsideration of this application as amended is respectfully requested.

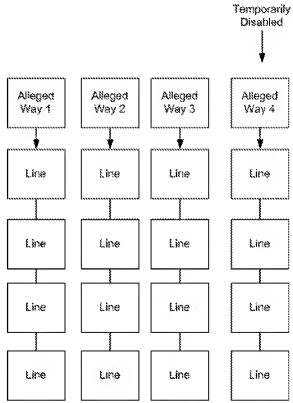
Claim Rejections – 35 U.S.C. § 103

Claims 1, 5, 8, 10, 12, 13, 17, and 20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Syed, et al., U. S. Publication No. 2002/0108021 (hereinafter "Syed") in view of Rixner, et al., U. S. Patent No. 6,016,531 (hereinafter "Rixner").

Syed describes a multiple way cache in which one section/way is temporarily disabled (the processor cannot read or write to it). The disabled section is used for unloading to or preloading from the main memory, after which it may be re-enabled for normal operation. (Syed, paragraph [0083]).

Rixner describes a system for managing data flow into a cache. In particular, Rixner describes a cache array that is partitioned into three regions: "the operating system (OS) space, which is always pinned or available, Side 1, which holds task B, and Side 2, which holds task A." (Rixner, col. 5, lines 19-22).

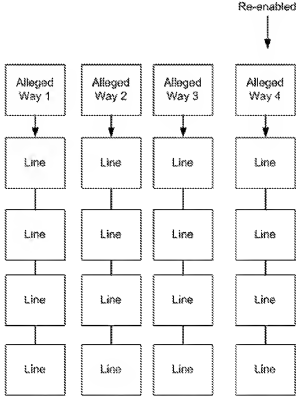
Applicant respectfully submits that the combination of Syed and Rixner fails to disclose all of the limitations of claim 1. The Examiner first alleges that Syed's disabling of one of the ways (i.e., sets) in the cache is equivalent to reserving a number of ***unallocated lines*** (the following series of figures are for the purpose of illustrating the Examiner's argument only - the figures are not an admission of prior art nor are they an indication that the applicant agrees with the Examiner's characterization of Syed and Rixner):



Syed, however, does not disclose that the reserved lines are unallocated. The fact that the lines belong to one of the "M" ways (e.g., illustrated as Way 4 above) shows that they have been allocated to that way. Syed does not describe that the lines are then free to be allocated to any other way once one of the ways is temporarily disabled. Instead, Syed merely states that the disabled section (e.g., Way 4) is

unloaded/pre-loaded and then re-enabled. Rixner is silent regarding allocated and unallocated lines. Additionally, Rixner only describes that a cache array is partitioned to include an OS space, which is always pinned, not that a particular number of cache lines for pinned data are reserved. Rixner provides no detail as to the pinned OS space and, therefore, fails to disclose this claim feature.

The Examiner continues with the rejection by alleging that Syed's description of pre-loading the disabled way and re-enabling that way is equivalent to inserting a line into a search group, wherein the inserting includes selecting a line from the lines reserved for pinned data, storing the data in the line, and inserting the line of pinned data into a search group of the CATB cache:

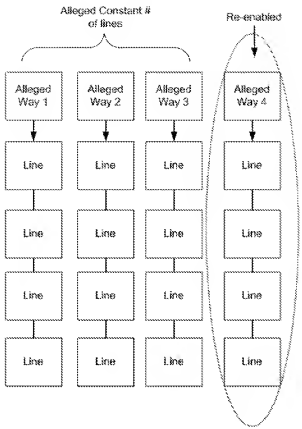


Syed does not disclose ***selecting a line from the lines reserved for pinned data***. Even if the Examiner ignores "reserved for pinned data," Syed does not disclose selecting a line from any group of lines in the cache. Syed discusses loading a line into

any one of the cache's several ways ***from main memory*** - e.g., pre-loading Way 4 once it has been temporarily disabled. Furthermore, the Examiner concedes that Syed fails to disclose lines are reserved for pinned data and instead relies on Rixner, which states that that a cache is partitioned into three regions, one of which is always pinned. Rixner, however, does not disclose ***selecting a line from the lines*** reserved for pinned data, it merely describes that a part of the cache is always pinned. Therefore, even when combined, Syed and Rixner fail to disclose selecting a line from the lines reserved for pinned data. At best, the rejection improperly distills the claim language to a gist. (MPEP §2141.02).

Furthermore, the Examiner's argument first requires that the lines of the disabled way (Way 4) to be the reserved lines and then requires that one of those lines be selected and inserted into the same group/way. Applicant respectfully submits that a line that is already allocated to a way (e.g., Way 4) would not be selected and inserted into the same way (again, Way 4) because it is already allocated to that way. It is respectfully submitted that these arguments are inconsistent with one another and fail to show how the combination of Syed and Rixner disclose the claim language.

Lastly, the Examiner alleges that Syed's description of temporarily disabling a way is also the equivalent of maintaining a constant number of non-pinned lines within the search group into which the pinned line of data is inserted. The Examiner argues that the non-disabled ways (Ways 1-3) are the constant number of non-pinned lines:



The claim language, however, is directed to maintaining a constant number of non-pinned lines ***within the search group into which the pinned line of data is inserted***. As discussed above, the Examiner argued that the line of data is inserted into the disabled way (Way 4, circled above, see also Office Action dated 7/8/09, page 3 - "Thus the enabled area is analogous to search group of the CATB cache."). Therefore, applicant does not see how the lines in the non-disabled ways (Ways 1-3) have anything to do with maintaining a constant number of non-pinned lines within the search group (allegedly Way 4). The Examiner's argument improperly switches from treating the temporarily disabled way (Way 4) as the search group to treating the entire cache as the search group and three of the "ways" as the constant number of lines within the search group. It is respectfully submitted that the arguments are inconsistent with one

another and fail to show how the combination of Syed and Rixner disclose the claim language.

Accordingly, applicant respectfully submits that the rejection of claim 1 has been overcome.

While independent claims 8, 10, 12, 13, 20 differ from claim 1, they contain features similar to those discussed above. Accordingly, applicant respectfully submits that the rejection of claims 8, 10, 12, 13, 20 has been overcome for at least the same reasons as above.

Given that claims 5 and 17 are dependent upon claims 1 and 13, and include additional features, applicant respectfully submits that the rejection of claims 5 and 17 has been overcome for at least the same reasons as above.

Claims 6 and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Syed in view of Rixner and further in view of the Background of the present application (hereinafter "Background").

Given that claims 6 and 18 are dependent upon claims 1 and 13, and include additional features, and that Background fails to remedy the shortcomings of Syed and Rixner discussed above, applicant respectfully submits that the rejection of claims 6 and 18 has been overcome for at least the same reasons as above.

Claims 2 and 14 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Syed in view of Rixner and further in view of Norman, U.S. Patent No. 6,292,868 (hereinafter "Norman").

Given that claims 2 and 14 are dependent upon claims 1 and 13, and include additional features, and that Norman fails to remedy the shortcomings of Syed and Rixner discussed above, applicant respectfully submits that the rejection of claims 2 and 14 has been overcome for at least the same reasons as above.

Claims 3, 4, 15 and 16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Syed in view of Rixner and further in view of Norman and Wong U.S. Patent No. 7,130,979 (hereinafter "Wong").

Given that claims 3, 4, 15 and 16 are dependent upon claims 1 and 13, and include additional features, and that Norman and Wong fail to remedy the shortcomings of Syed and Rixner discussed above, applicant respectfully submits that the rejection of claims 3, 4, 15 and 16 has been overcome for at least the same reasons as above.

Claims 7 and 19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Syed in view of Rixner and further in view of Background and Mandal et al, U.S. Patent No. 6,983,465 (hereinafter "Mandal").

Given that claims 7 and 19 are dependent upon claims 1 and 13, and include additional features, and that Background and Mandal fail to remedy the shortcomings of Syed and Rixner discussed above, applicant respectfully submits that the rejection of claims 7 and 19 has been overcome for at least the same reasons as above.

Claims 9, 11, and 21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Syed in view of Rixner and further in view of Wong.

Given that claims 9, 11, and 21 are dependent upon claims 8, 10, and 20, and include additional features, and that Wong fails to remedy the shortcomings of Syed and Rixner discussed above, applicant respectfully submits that the rejection of claims 9, 11, and 21 has been overcome for at least the same reasons as above.

CONCLUSION

Applicant respectfully submits that in view of the amendments and arguments set forth herein, the applicable objections and rejections have been overcome. Applicant reserves all rights under the doctrine of equivalents.

Pursuant to 37 C.F.R. 1.136(a)(3), applicant hereby requests and authorizes the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully Submitted,
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